Scioto Pennsylvania Through Truss Bridge
Spanning Scioto River at State Route 73
Portsmouth
Scioto County
Ohio

HAER No. OH-53

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
U. S. Department of the Interior
P. O. Box 37127
Washington, D. C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

Scioto Pennsylvania Through Truss Bridge

HAER No. OH-53

Location: State Route 73 over Scioto River, Portsmouth, Scioto County

UTM Coordinates: 17/325160/4288820

Date of Construction: 1915

Present Owner: State of Ohio
Ohio Department of Transportation
25 Front Street
Columbus, Ohio

Present Use: Vehicular and pedestrian traffic

Significance: This bridge was for many years the only highway bridge across the Scioto River in Scioto County. It thus provided a vital road link in addition to creating a bridge for the Portsmouth Street Railway and telephone lines for the Portsmouth Telephone Company. It has been selected as an historic bridge by the Ohio Department of Transportation. It is scheduled to be replaced by 1991, and federal highway funds have been requested for its replacement.

Report prepared by: Randall S. Gooden
Project Historian
Ohio Historic Bridge Recording Project
Summer 1986

The Scioto Pennsylvania Through Truss Bridge replaced a structure that was washed away in a historic flood in March 1913. The bridge currently consists of six spans with an overall length of 1,505 feet. Four overhead center spans measure 336 feet each. The eastern approach span measures 75 feet, and the western approach span measures 65 feet. The bridge roadway is 25 feet wide, and the sidewalk is five feet wide. This deck rests approximately 100 feet above the river.

The bridge underwent extensive reconstruction in 1962, significantly altering the original structure. Originally, the bridge consisted of three overhead spans. The total length of the bridge was 1,450 feet, including a 75' approach span on the east. Its western end rested directly on the end of a pier at a towpath on the west side of the river.

Original construction of the bridge began on April 1, 1915. The work required 1,500 tons of structural steel. Floor materials included 300 tons of buckle plate and a pavement consisting of three inches of concrete, one inch of sand, and four inches of brick.[1]

The construction of this bridge was a major undertaking. Before structural work began, the Baltimore and Ohio Railroad built a special railroad siding on the east side of the river so that materials could be

brought to the construction site. A. J. Martin Construction Company drove the piling for the abutments and approaches and backfilled the approaches, completing the work at the beginning of July.[2]

Work on the superstructure began on May 1. After the county's engineer inspected the bridge steel, Mt. Vernon Bridge Company unloaded materials from freight cars and began building falsework for construction of the steel truss spans. The company used a 50-ton derrick to raise materials to the bridge at the east end, and a pulley driven by two motors fed the materials across the bridge. the first span was finished by July 1, and the second by August 1. The structural work was done by mid-September, at which point Colegrove & Weathers paved the bridge at a cost of $16,410.55. The bridge opened on November 21 and had cost $300,000. The bridge not only was a vital road link across Scioto River, but it provided a crossing for the Portsmouth Street Railway and Light Company and telephone lines of Portsmouth Telephone Company.[3]

A number of incidents occurred during construction of the bridge which characterized bridge building during that era. In 1915, hydraulic riveters were entering the bridge construction industry. These greatly speeded the erection of steel work on bridges. With former riveting methods, 20% to 30% of the rivets were faulty. The hydraulic riveter

resulted in a rate of about 2% faulty rivets. This partly accounted for the fast rate of construction on the Scioto Bridge.[4] In addition, injuries plagued bridge builders during this era. Safety harnesses and helments were not used. Three men fell from Scioto Bridge during its construction, resulting in one death by drowning. The list of injuries on the bridge included crushed hands and head injuries caused by falling objects.[5]

Flooding caused the greatest annoyance during construction of Scioto Bridge. A temporary bridge near the new bridge site was washed away and rebuilt five times between March 1913 and November 1915. High waters caused the slow-down of work on Scioto Bridge three times. Eventually, Mt. Vernon Bridge Company was able to prevent damage to the bridge by moving falsework at crucial times and maintaining constant vigils against the collection of potentially damaging debris against the piers.[6]

Mt. Vernon Bridge Company acted prudently against the floods because of its long experience in bridge building. The company was incorporated in 1880 for the purpose of building wrought-iron bridges, but it grew to make all types of iron and steel structures. It was a West Virginia chartered company, although its plant was in Mt. Vernon, Ohio. John S.

Braddock, a real estate speculator was the first president, and John Ewalt, of Knox County National Bank, was the secretary-treasurer.

The company began business with a capital stock of $40,000, but over-extended its finances with the construction of a new plant in 1886. In addition to this, the company poorly estimated the cost of construction of a bridge across the Potomac River in 1894. The resulting financial losses caused the company to close, and it went into receivership in 1897.[7]

James Westwater, a Columbus contractor, purchased the company and received a charter from the Ohio State government in September 1897. He named James Israel, secretary-treasurer and general manager of MountVernon Bank and postmaster at Mount Vernon, as company secretary-treasurer. Isreal served as company president from 1909 to 1919. The company had $60,000 in capital stock in 1897. This amount was increased to $100,000 in 1900, $300,000 in 1905, and $400,000 in 1912. Despite legal problems connected with its involvement with bridge trusts, the firm prospered and had 200 plant workers and 40 office personnel by 1912. A fire on February 14, 1910, destroyed the wood frame plant but it was replaced by brick buildings covering seven acres.[8]

Irving M. Wolverton, who had served as the company's chief engineer and later as vice-president, became president in 1919. Clyde G. Conley, secretary, succeeded him as president in 1930 and served through the 1950s. The company won awards from the American Institute of Steel Construction for its Passaic River Bridge at Rutherford, New Jersey and its New York Central Railroad Bridge over the Cuyahoga River. It also won five honorable mentions. Its noteworthy building projects included Ohio Stadium, St. John Arena and Neil House in Columbus, Ohio. Ownership of the company changed several times in the 1950s, and it closed in the 1960s.[9]

Mt. Vernon Bridge Company's work on Scioto Bridge remained substantially unchanged until 1962. In that year, the Bureau of Bridges of the Ohio Department of Highways directed major repairs and alterations on the bridge. Workers raised existing steel truss spans and the eastern approach span to meet a new road grade. They added a steel beam approach span on the west. The rejuvenated structure consisted of six spans instead of the original five with the addition of a center pier.[10]

When workers raised the truss spans, they capped the third, fourth, and fifth piers with concrete. They removed the existing concrete backwall

and wingwalls from the fifth pier. This backwall was removed to the elevation of the top of the existing main pier concrete supporting truss shoes. Existing pavement and street car rails were removed, and the deck buckle plates were cleaned. Workers installed new expansion joints and placed concrete on the deck. A new backwall was constructed on the eastern abutment, and the western abutment was replaced. Railings were replaced by steel guard rails on the roadway, and the sidewalk railing was straightened and strengthened; sidewalk plank and railing timbers were replaced. All roller nests, bolsters, and bearing plates were cleaned and repaired. Despite these extensive repairs, the bridge continues to age, and additional repairs are needed. Currently, bridge replacement is being discussed.[11]

NOTES

1 Morning Star of Portsmouth, 5 August 1915.

2 Ibid., 4 April, 18 May 1915.

3 Ibid., 27 April, 30 April, 2 May, 22 June, 27 June, 17 July, 4 August, 2 September, 21 November 1915.

4 Ibid., 22 July 1915.

5 Ibid., 17 June, 24 June 1915.

6 Ibid., 17 June, 2 July, 17 July 1915.

7 Frederick N. Lorey, ed., History of Knox County, Ohio 1876-1976 (Evansville, IN: Unigraphic Corp., 1976), pp. 172-173.
Albert B. Williams, ed., Past and Present of Knox County Ohio, 2 vols. (Indianapolis: B. F. Bowen & Co., 1912), 1:289-290, 2:446-447, 587-588.

8 Ibid.

9 Lorey, History of Knox County, pp. 172-173.

10 Ohio, Department of Transportation, Bureau of Environmental Services, Bridge No. SC-52-184 over Scioto River.

11 Ibid.

BIBLIOGRAPHY

Lorey, Frederick N., ed., History of Knox County, Ohio 1876-1976. Evansville, IN: Unigraphic Corp., 1976.

Morning Star of Portsmouth, 4 April-21 November 1915.

Ohio, Department of Transportation. Bureau of Environmental Services. Bridge No. SC-52-184 over Scioto River.

Williams, Albert B., ed., Past and Present of Knox County, Ohio. 2 vols. Indianapolis: B. F. Brown & Co., 1912.